Repairing Samsung LA40R81BD 40in LCD TV Power Supply (clicking Relay Symptom)

This guide will help you resolve a common problem with Samsung LCD TV's. Symptoms include TV taking extended time to power up, power cycling ON/OFF/ON, failure to power up and other similar issues. The cause is failed capacitors on the PSU board.

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INTRODUCTION

This guide assumes you have a reasonable understanding of soldering and desoldering techniques. You will be able to remove the power supply board, locate and examine the likely faulty capacitors. This guide is accurate for the LA40R81BD model however there are many similar models that experience similar issues so you may find it useful in repairing other model Samsung TV's

TOOLS:

- Phillips #2 Screwdriver (1)
- Soldering Station (1)
- Solder (1)
- Desoldering Braid (1)
- Small Diagonal Wire Cutters (1)

PARTS:

- 2200uF 25V (2)

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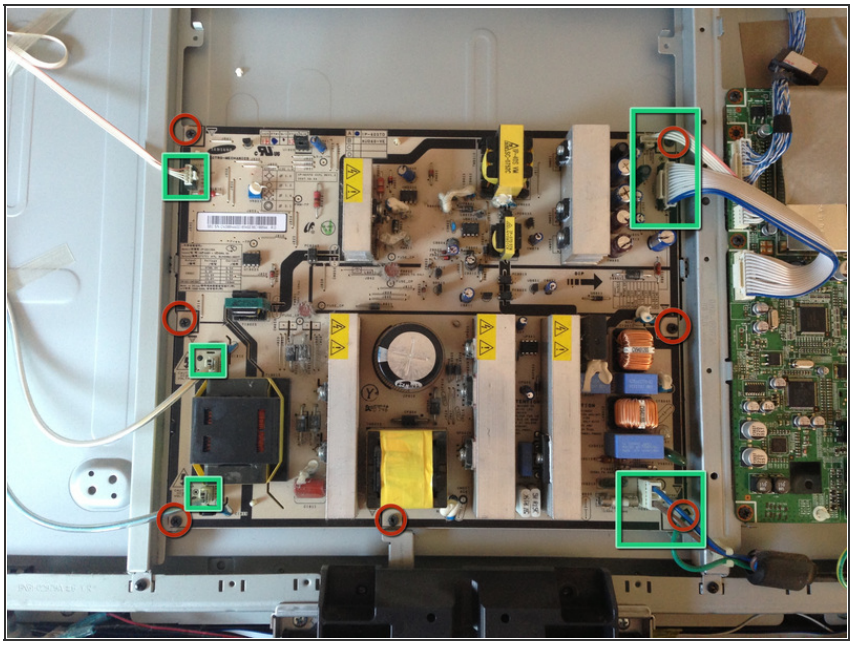
Step 1 — Rear Cover

Unplug power cable and all AV cables from rear of TV and carefully lay TV face down on a clean flat working surface ensuring that you don't damage the LCD screen.

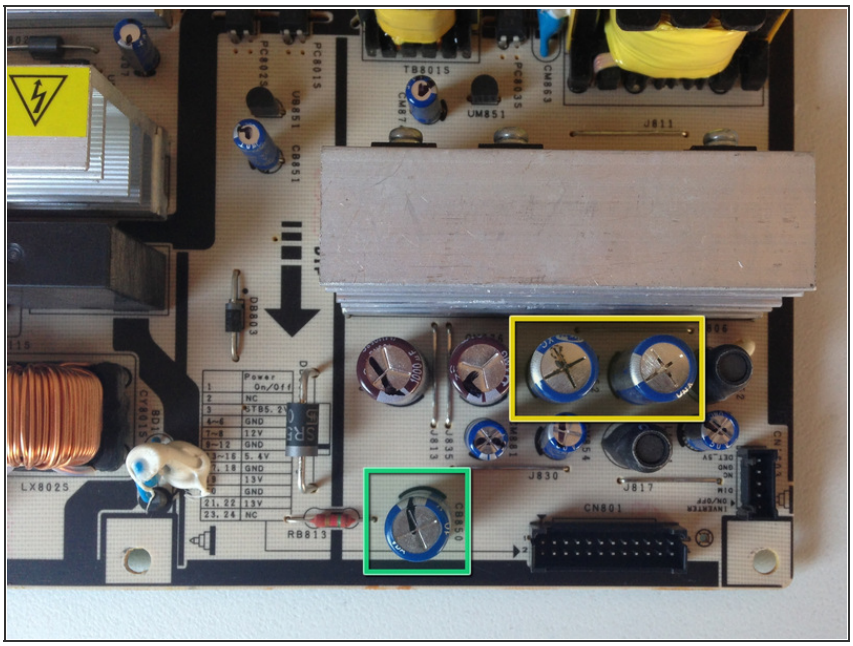
- Using a Philips driver remove the 18 screws from the rear panel.
- Gently lift the rear cover off the TV. You may need to wiggle the cover a little however there are no clips holding the cover on so it should come off easily if you have fully unscrewed all 18 screws.

Step 2 — Power Supply Board



- Remove the 7 connectors from the board
- Remove the 7 screws from the board
- Lift the main board away from the chassis ensuring you don's snag or catch any of the cables.

Step 3 — Power Supply (clicking Relay Symptom)



- Inspect all electrolytic capacitors on the power supply board and replace any that are bulging or leaking.
- On my board there were 2ea 2200uf capacitors that were bulging.
- Remove the old capacitors ensuring you don't overheat or damage the copper pads/tracks on the circuit board

Take care to ensure you install the new capacitors correctly. They are polarity sensitive and the board and capacitors will be clearly marked which way they should be inserted.

You may want to check and replace any adjacent capacitors that are rated 10V as these seem to be the ones likely to fail.

- In my case I also replaced the 1000uF capacitor

If you have a different model TV the layout of the power supply board may be different however the faulty capacitors should be easily identifiable.

If replacing the capacitors does not resolve your symptoms you may need to replace the eprom on the main board as it can be corrupted or damaged by the power cycling

To reassemble your device, follow these instructions in reverse order.

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